

WHAT IS CLAIMED IS:

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1. A low depth tray for bottles, comprising:
a first pair of opposed walls;
a second pair of opposed walls attached to the first pair of opposed
walls to form a wall structure;
a base attached to the wall structure;
at least one interior column projecting upwardly within the wall
structure, the at least one interior column having a height less than the height of
bottles loaded in the tray; and
a plurality of interior divider walls which project upwardly from the
base and extend between the at least one column and the wall structure, the divider
walls having a double-walled construction,
wherein the divider walls, the at least one interior column, the base,
and the wall structure define a plurality of bottle retaining pockets, each pocket
including at least one divider wall and sized to receive a single bottle therein.

claim 1

2. The tray according to claim 1, wherein the wall structure includes
an upper wall portion having a plurality of upwardly projecting wall columns.

3. The tray according to claim 2, wherein the wall columns and the
at least one interior column are substantially equal in height.

4. The tray according to claim 2, wherein the wall columns and the
at least one interior column are substantially hollow.

5. The tray according to claim 2, wherein each wall column includes
at least one curved surface contoured to the shape of bottles loaded in the tray, and
wherein the at least one interior column is substantially octagonal and includes
curved surfaces disposed on alternating sides thereof which are contoured to the
shape of bottles loaded in the tray.

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1 6. The tray according to claim 5, wherein the wall columns and the
2 at least one interior column include an opening adjacent the base on the curved
3 surfaces thereof.

1 7. The tray according to claim 1, wherein the wall structure has a
2 double-walled construction and includes a lower wall portion having a substantially
3 flat outer wall and a generally curved inner wall.

1 8. The tray according to claim 7, wherein the lower wall portion
2 includes a plurality of windows formed therein.

1 9. The tray according to claim 1, wherein the divider walls each
2 include at least one curved surface contoured to the shape of bottles loaded in the
3 tray.

1 10. The tray according to claim 1, wherein each of the second pair
2 of opposed walls includes a handle, each handle including a cutout portion formed
3 adjacent to the base, and a slot formed above the cutout portion, such that a user's
4 fingers can be inserted into the cutout portion and through the slot in a palm-up
5 orientation, and into the slot and through the cutout portion in palm-down
6 orientation.

1 11. The tray according to claim 1, wherein the base includes an
2 upper surface including a plurality of spaced bottle support areas, wherein each
3 bottle support area forms part of one bottle retaining pocket and includes a generally
4 circular central portion.

1 12. The tray according to claim 11, wherein each bottle support area
2 further includes a concave perimeter portion which at least partially surrounds the
3 central portion and is attached to the at least one divider wall of the bottle retaining
4 pocket.

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13. The tray according to claim 1, wherein the base includes a lower surface having generally circular receiving areas having central retaining openings sized to receive bottle closures therein, wherein the receiving areas are operable to guide the bottle closures into the corresponding retaining openings.

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14. A low depth tray for storing and transporting bottles, comprising:

a floor member;

a unitary wall structure extending upwardly from the floor member, the wall structure having a lower wall portion including a plurality of windows formed therein and an upper wall portion including a plurality of upwardly projecting wall columns disposed between the windows; and

an interior grid structure disposed within the wall structure and connected thereto, the interior grid structure including a plurality of divider walls extending upwardly from the floor member and a plurality of spaced interior columns projecting upwardly from and interconnected by the divider walls, the divider walls having a double-walled construction and the interior columns having a height less than the height of bottles loaded in the tray; *combo*

wherein the interior grid structure, the wall structure, and the floor member together define a plurality of bottle retaining pockets, and the wall columns and the interior columns each include at least one curved surface adapted to contact bottles received in the bottle retaining pockets.

Sub 14

15. The tray according to claim 14, wherein the wall structure has a double-walled construction, the lower wall portion having a substantially flat outer wall and a generally curved inner wall adjacent the window which is adapted to contact bottles received in the bottle retaining pockets.

16. The tray according to claim 14, wherein the divider walls each include at least one curved surface adapted to contact bottles received in the bottle retaining pockets.

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1 17. The tray according to claim 14, wherein the columns are
2 substantially hollow.

1 18. The tray according to claim 14, wherein the interior columns and
2 the wall columns extend above the floor member a distance of approximately one
3 third of the height of bottles loaded in the tray.

1 19. The tray according to claim 14, wherein the wall columns and
2 interior columns disposed along a transverse axis of the tray each include a recess
3 formed therein which extends along the transverse axis of the tray.

1 20. The tray according to claim 14, wherein the wall structure
2 includes two handles on opposite ends thereof, each handle including a cutout
3 portion formed in the wall structure adjacent the floor member, and a slot formed
4 in the wall structure above the cutout portion, such that a user's fingers can be
5 inserted into the cutout portion and through the slot in a palm-up orientation, and
6 into the slot and through the cutout portion in palm-down orientation.

1 21. The tray according to claim 14, wherein the floor member
2 includes an upper surface including a plurality of spaced bottle support areas,
3 wherein each bottle support area includes a generally circular central portion and a
4 concave perimeter portion which at least partially surrounds the central portion and
5 is attached to at least one divider wall.

1 22. The tray according to claim 14, wherein the floor member
2 includes a lower surface having receiving areas including central retaining openings
3 sized to receive bottle closures therein.

1 23. The tray according to claim 14, wherein the bottle retaining
2 pockets are sized to receive two-liter bottles.

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1 ^{sub 2} 24. A plastic low depth tray for bottles, comprising:
2 a base having an upper surface and a lower surface, the upper surface
3 including a plurality of spaced bottle support areas having a central portion at least
4 partially surrounded by a curved perimeter portion;
5 a pair of opposed end walls extending upwardly from the base, each
6 end wall including a handle formed therein;
7 a pair of opposed side walls extending upwardly from the base and
8 integrally joined with the pair of opposed end walls, wherein the side and end walls
9 are of double-walled construction and include a lower wall portion and an upper
10 wall portion, the lower wall portion having a substantially flat outer wall, a
11 generally curved inner wall, and a plurality of windows formed therein, and the
12 upper wall portion having a plurality of spaced wall columns projecting upwardly
13 from the lower wall portion between the windows; and
14 an interior grid structure integrally formed with the end walls and the
15 side walls, the interior grid structure including a plurality of spaced upwardly
16 projecting interior columns disposed along a longitudinal axis of the tray and having
17 a height less than the height of bottles loaded in the tray ^{combo} and a plurality of double-
18 walled divider walls extending upwardly from the base and interconnecting the wall
19 columns and interior columns,
20 wherein the interior grid structure, side walls, end walls, and base
21 together define a plurality of bottle retaining pockets, each pocket including a bottle
22 support area for supporting a base of each bottle and at least one column and at least
23 one divider wall for providing lateral support for each bottle.

1 25. A stackable low depth tray for storing and transporting bottles,
2 comprising:
3 a base having an upper surface and a lower surface, the lower surface
4 including a plurality of receiving areas;
5 a wall structure extending upwardly from the base, the wall structure
6 including a lower wall portion having a lower surface and an upper surface, and an
7 upper wall portion including a plurality of spaced, upwardly extending hollow wall
8 columns;

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9 a plurality of spaced, upwardly extending hollow interior columns
10 disposed within the wall structure, the interior columns having a height less than the
11 height of bottles loaded in the tray; and

12 a plurality of double-walled interior divider walls which continuously
13 join adjacent columns to form, in combination with the base and the wall structure,
14 a plurality of bottle retaining pockets,

15 wherein when the tray is empty and is disposed in a stacked
16 configuration with a like lower tray, the columns of the tray are adapted to receive
17 at least a portion of the columns of the like lower tray and the lower surface of the
18 lower wall portion of the tray is adapted to be supported on the upper surface of the
19 lower wall portion of the like lower tray, and when the tray is loaded with bottles
20 and is disposed in a stacked configuration with a like lower tray, the bottle retaining
21 pockets of the tray are substantially aligned with the bottle retaining pockets of the
22 like lower tray, and the receiving areas of the tray are adapted to receive the
23 closures of bottles loaded in the like lower tray.

functional

1 26. The tray according to claim 25, wherein the wall structure has
2 a double-walled construction, and the lower wall portion includes a plurality of
3 windows formed therein between the wall columns.

1 27. The tray according to claim 25, wherein each of the wall
2 columns and interior columns includes at least one curved surface contoured to the
3 shape of bottles loaded in the tray.

1 28. A stackable low depth tray for storing and transporting bottles,
2 comprising:

3 a base having an upper surface and a lower surface, the upper surface
4 including a plurality of bottle support areas and the lower surface including a
5 plurality of receiving areas substantially aligned with the bottle support areas;

6 a wall structure attached to the base, the wall structure including a
7 lower wall portion having a lower surface and an upper surface, and an upper wall
8 portion including a plurality of spaced, upwardly extending wall columns;

9 a plurality of spaced interior columns generally disposed within the
10 wall structure and extending upwardly to a height less than the height of bottles
11 loaded in the tray, wherein the wall columns and interior columns disposed along
12 a transverse axis of the tray each include a recess formed therein which extends
13 along the transverse axis of the tray; and

14 a plurality of double-walled interior divider walls which interconnect
15 adjacent columns to form, in combination with the bottle support areas and the wall
16 structure, a plurality of bottle retaining pockets within the tray having substantially
17 equal center-to-center distances,

18 wherein when the tray is empty and is disposed in a cross-stacked
19 configuration with an upper like tray, the column recesses are adapted to receive a
20 portion of the wall structure of the upper like tray, and when the tray is loaded with
21 bottles and is disposed in a cross-stacked configuration with an upper like tray, the
22 bottle receiving pockets of the tray are aligned with the receiving areas of the upper
23 like tray.

not shown

functional

29. The tray according to claim 28, wherein the outer wall structure
has a double-walled construction, and the lower wall portion includes a plurality of
windows formed therein between the wall columns.

30. The tray according to claim 28, wherein each column includes
at least one curved surface contoured to the shape of bottles loaded in the tray.

31. The tray according to claim 28, wherein the columns are
substantially hollow for receiving at least a portion of the columns of a subjacent
like tray.

32. The tray according to claim 28, wherein the column recesses
extend downwardly to the height of the upper surface of the lower wall portion, and
the lower surface of the wall structure of the upper like tray is supported on the
upper surface of the wall structure of the tray.

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1 33. The tray according to claim 28, wherein each bottle support area
2 includes a generally circular central portion and a concave perimeter portion which
3 at least partially surrounds the central portion and is attached to at least one divider
4 wall.

1 34. The tray according to claim 28, wherein the bottle support areas
2 include apertures formed therein.

1 35. The tray according to claim 28, wherein the center-to-center
2 distances between the bottle retaining pockets of the tray and the bottle retaining
3 pockets of an adjacent like tray abutting the wall structure are substantially equal.

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